AMENDMENTS TO THE CLAIMS

Claims 1-91 (Cancelled).

92. (New) A coplanar waveguide comprising:

a substrate;

a signal conductor line formed over said substrate, wherein said signal conductor line comprises a first conductive layer, said first conductive layer being over and in contact with a barrier layer, said barrier layer being over a first insulating layer on said substrate, and wherein said first insulating layer and said barrier layer are at least partially between said first conductive layer and a top surface of said substrate;

at least two longitudinal ground conductor planes formed over said substrate on both sides of said signal conductor line and spaced apart from said signal conductor line to form respective gaps; and

at least two trenches formed in said substrate at said respective gaps.

93. (New) The coplanar waveguide of claim 92, wherein said ground conductor planes comprise a second conductive layer, said second conductive layer being over a second insulating layer on said substrate.

94. (New) The coplanar waveguide of claim 93, wherein said first and second insulating layers are oxide layers.

95. (New) The coplanar waveguide of claim 94, wherein said oxide layers have a thickness of about 200 Angstroms to about 300 Angstroms.

96. (New) The coplanar waveguide of claim 92, wherein each of said at least two trenches has a depth of about 100,000 Angstroms to about 200,000 Angstroms.

97. (New) The coplanar waveguide of claim 92, wherein each of said respective gaps is about 150,000 Angstroms to about 200,000 Angstroms.

98. (New) The coplanar waveguide of claim 92, wherein said signal conductor line has a width of about 250,000 Angstroms to about 350,000 Angstroms.

99. (New) The coplanar waveguide of claim 92, wherein said ground conductor planes and said signal conductor line have a thickness of about 100,000 Angstroms to about 200,000 Angstroms.

100. (New) A processor system comprising:

a processor; and

an integrated circuit coupled to said processor, at least one of said integrated circuit and processor comprising a substrate, a signal conductor line formed over said substrate, wherein said signal conductor line comprises a copper layer, said copper layer being over a first insulating layer on said substrate, and wherein said first insulating layer is at least partially between said copper layer and a top surface of said substrate, at least two longitudinal ground conductor planes formed over said substrate and on both sides of said signal conductor line and spaced apart from said signal conductor line to form respective gaps, and at least two trenches formed in said substrate at said respective gaps.

101. (New) The system of claim 100, wherein said ground conductor planes comprise a conductive layer, said conductive layer being over a second insulating layer on said substrate.

102. (New) The system of claim 101, wherein said conductor layer comprises copper.

103. (New) The system of claim 100, wherein each of said at least two trenches has a depth of about 100,000 Angstroms to about 200,000 Angstroms.

104. (New) The system of claim 100, wherein each of said respective gaps is of about 150,000 Angstroms to about 200,000 Angstroms.

105. (New) The system of claim 100, wherein said signal conductor line has a width of about 250,000 Angstroms to about 350,000 Angstroms.

106. (New) The system of claim 100, wherein said ground conductor planes and signal conductor line have a thickness of about 100,000 Angstroms to about 200,000 Angstroms.

107. (New) A coplanar waveguide comprising:

a silicon substrate;

a first oxide layer over said substrate;

a titanium nitride barrier layer over said first oxide layer;

a signal conductor line formed over said titanium nitride layer, wherein said first oxide layer and said titanium nitride layers are ~~is~~ at least partially between said signal conductor line and a top surface of said substrate;

at least two longitudinal ground conductor planes formed over said silicon substrate on both sides of said signal conductor line and spaced apart from said signal conductor line to form respective gaps; and

at least two trenches formed in said silicon substrate at said respective gaps, each of said trenches having a depth of about 100,000 Angstroms to about 200,000 Angstroms and a width of about 100,000 Angstroms to about 150,000 Angstroms.

108. (New) The coplanar waveguide of claim 107, further comprising a second oxide layer on said silicon substrate, said ground conductor planes being over said second oxide layer.

109. (New) A coplanar waveguide comprising:

a silicon substrate;

a first oxide layer over said substrate;

a signal conductor line formed over said silicon substrate, wherein said first oxide layer is at least partially between said signal conductor line and a top surface of said substrate, said signal conductor line having silicide layers on sidewalls of said signal conductor line;

at least two longitudinal ground conductor planes formed over said silicon substrate on both sides of said signal conductor line and spaced apart from said signal conductor line to form respective gaps; and

at least two trenches formed in said silicon substrate at said respective gaps, each of said trenches having a radius of about 50,000 Angstroms to about 100,000 Angstroms.

110. (New) The coplanar waveguide of claim 109, further comprising a second oxide layer on said silicon substrate, said ground conductor planes being over said second oxide layer.